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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,669	03/29/2001	Yasuhiro Shimada	862.C2172	3218

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EXAMINER

NGUYEN, KIET TUAN

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,669

Applicant(s)

SHIYADA et al.

Examiner

K. NGUYEN

Group Art Unit

2881

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-10, 12 and 14-25 is/are rejected.
- ☒ Claim(s) 11 and 13 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 7
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Rejection Under 35 U.S.C. 102(b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 12 and 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Newberry et al.

Newberry et al. disclose, in figs. 1-31, a micro lens array and micro deflector assembly for using an electron beam apparatus. The array or assembly includes a plurality of electrodes 15, 16, 17 and 18 nested to form the lens array, each having a plurality of apertures 31, connected to a conductive wire and an electrode member 20A or 20B and a support portion, and arranged along an optical axis; insulating spacers 155 and 156 which are interposed between the electrodes 16 and 17 for determining a gap and made of glass (see col. 30, lines 20-28); base members 19 or 14A; members 138 interposed between the support members 14B and the electrodes 16-18 for determining a gap between the facing support members; and fibers 143 positioned in grooves 153 of the supports 151, 152, 154, 155 and 156 for coupling the electrodes, and a micro deflector and a micro lens array. A charged particle source for emitting a charged particle beam and a projection lens system for projecting the charged particle beams on a substrate are considered to be inherent in the Newberry et al. electron beam apparatus, since the electron source and the lens system are in every the electron beam apparatus for exposing the electron beam on a wafer.

Rejection Under 35 U.S.C. 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-10 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newberry et al. in view of Muraki et al. (5,834,783).

Newberry et al. disclose all the features as discussed above except at least two nested structures as recited in claim 7; a base member having first and second surfaces each surface supporting one of the at least two nested structures as recited in claim 8; at least two base members as recited in claim 9; a plurality of semiconductor manufacturing apparatuses including a

charged particle beam exposure apparatus in a factory as recited in claims 22 and 24; and a local area network, means for connecting the local area network to an external network, means for acquiring information about the charged particle beam exposure apparatus from a database, and means for controlling the charged particle beam exposure apparatus on the basis of the acquired information as recited in claims 23, 24 and 25.

Muraki et al. (5,834,783) disclose, in figs. 1-46, an electron beam exposure system. The system includes a plurality of electron beam exposure and manufacturing apparatuses 501a-501c; a memory 19 for providing information about the apparatuses; a controller 14 which is operated as a local area network for independently controlling each apparatus on the basis of the information acquired from the memory 19; a CPU 12 which is also operated as an external network; an interface 13 for connecting the local area network and the external network; and focus lenses 303-1-303-2' which include a plurality of spacing plates each spacing plate having a plurality of apertures at positions corresponding to the plurality of apertures of each electrode; and a base member having two surfaces each surface supporting one lens 303-1 or 303-1' (see fig. 6B), thus would have been obvious to one skilled in the art to use the base member having two surfaces for supporting the lens array; the plurality of semiconductor manufacturing apparatuses including a charged particle beam exposure apparatus in a factory; the local area network, means for connecting the local area network to an external network, means for acquiring information about the charged particle beam exposure apparatus from a database; and means for controlling the charged particle beam exposure apparatus on the basis of the acquired information of the

Muraki et al. (5,834,783) system in the Newberry et al. apparatus for controlling the electron beam apparatus, since both Muraki et al. (5,834,783) and Newberry et al. disclose the same results for controlling the electron beam apparatus.

Using the at least two nested structures and the at least two base members is considered to be obvious variation in design, since two nested structures and two base members are duplicating a part, thus would have been obvious to one skilled in the art to use the at least two base members for supporting the at least two nested structures in the Newberry et al. apparatus for controlling the electron beams as Newberry et al. disclose that the two base members 14 supporting the micro deflector 12 and the micro lens array 11 are coupled by the fibers 143.

Objected Claims

Claims 11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for indicating allowable subject matters

The prior art fails to disclose an electron optical system array having an electrode arranged inside a hollow portion which is formed by support portions of at least two electrodes of a nested structure as recited in claim 11; or the size of a support portion of one of a plurality of electrodes except for at least two electrodes forming a nested structure smaller than that of the electrode of the plurality electrodes that is located farthest from a base member of the nested structure as recited in claim 13.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner *Kiet T. Nguyen* whose telephone number is (703) 308-4855.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

K.T.N/Primary
March 6, 2003



KIET T. NGUYEN
PRIMARY EXAMINER